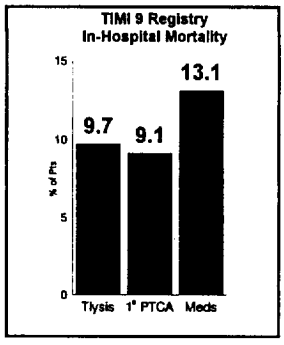
vs. 64.9 for Tlysis and 66.1 for medical therapy (each $p < 0.05$) and were *less often* women, 20.0%, vs. 36.2% and 36.1%, respectively, (each $p < 0.05$). Time to presentation was significantly longer for medically treated pts: 13.8h vs. 4.4h for Tlysis and 3.3h for 1° PTCA (each $p < 0.001$). Delay >12 hours was the reason cited most often for pts not treated with thrombolysis. In-hospital mortality is shown. Recurrent MI was similar in the 3 groups, 4.2%. *Conclusions:* (1) In 1994 in the U.S., reperfusion therapy was used in 71% of pts with ST elevation MI at these hospitals. (2) The potential underutilization of 1° PTCA in women deserves further study. (3) Early mortality was similar for Tlysis and 1° PTCA, but highest for medically treated pts, which supports further expansion of reperfusion therapy in ST elevation MI (including use of strategies to shorten patient time to presentation) and the need for improved medical therapies for thrombolytic ineligible patients.



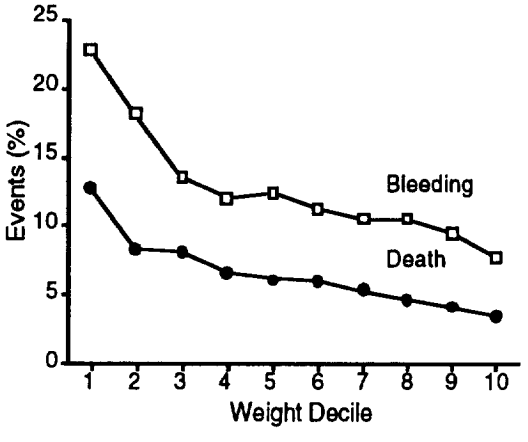
T U E S D A Y P M

2:30

755-3 Improved Prognosis for Heavy Weight Patients Receiving Thrombolysis in Acute Myocardial Infarction — Bigger is Better: Results from GUSTO

David J. Moliterno, Christopher Granger, Robert M. Califf, John M. Elliott, Amanda Stebbins, Eric J. Topol, GUSTO Investigators. *The Cleveland Clinic Foundation, Cleveland, OH*

Previous studies of thrombolysis in acute myocardial infarction (AMI) have noted lower efficacy in heavy patients and a higher incidence of bleeding complications among lighter patients. In the GUSTO trial of 41,021 patients receiving either streptokinase, a weight-adjusted dose of t-PA, or combination therapy for AMI, we prospectively collected data on patient weight and postulated prognostic value based on this variable. Patients with increased body mass were hypothesized to have reduced thrombolytic efficacy. Survival, along with moderate and severe bleeding complications, were therefore analyzed according to weight subgroups separated into deciles. Paradoxically, inverse relationships between patient body weight and both bleeding and mortality were demonstrated regardless of thrombolytic treatment strategy. Moreover, in a multivariable model of predictors of mortality, patient body weight added significant independent prognostic information ($\chi^2 = 19$, $P < 0.0001$). In conclusion, an inverse relationship to mortality was present throughout the weight range of patients. In contrast to previous observations, heavy weight patients actually have an improved prognosis.



2:45

755-4 Does a Less Restrictive Indication for Thrombolytic Therapy Cause More Iatrogenic Complications in Acute Myocardial Infarction?

Udo Burczyk, Jörg Rustige, Rudolf Schiele, Armin Koch, Rainer Uebis, Jochen Senges, ALKK-Study-Group. *Herzzentrum Ludwigshafen, Department of Cardiology, Germany*

Purpose: In consideration of possible severe complications thrombolytic agents are administered to only 30% of patients with acute myocardial infarction (AMI) admitted to coronary care units in Western Europe. "The 60-Minutes Myocardial Infarction Project" therefore investigates the effect of a higher lysis rate (LR) on the frequency of complications.

Methods: The multicenter nationwide study includes 154 hospitals in Germany. During an 8-month period 4650 consecutive patients with proven transmural AMI were enrolled and complications occurring within 48 hours after admission were registered for clinical centers with a low and high LR (≤50% versus >50%).

Results:

clinical centers:	all	LR < 50%	LR > 50%
complications (within 48 h):	n = 4650	n = 2768	n = 1882
death	8.0%	8.3%	7.5%
hemorrhagic stroke	0.4%	0.5%	0.2%
ventricular rupture	0.4%	0.4%	0.4%
moderate bleeding	2.4%	1.8%	3.3%
allergic reaction	0.8%	0.5%	1.3%

Both groups were similar in age, sex and coexisting diseases.

Conclusions: 1. 48-hour mortality was lower in clinical centers with a higher LR. 2. Severe complications showed no significant difference. 3. Minor complications were significantly more frequent in clinical centers with a higher LR. 4. These results support a less restrictive indication for thrombolytic therapy in AMI based on individual benefit-risk evaluation.

3:00

755-5 Risk Factors for Stroke Following Thrombolytic Therapy: Case-Control Study from the GUSTO Trial

Christopher Granger, Harvey White, Maarten Simoons, Douglas Weaver, Joel Gore, Phil Aylward, Gabriel Barbash, Kerry Lee, Robert Califf, GUSTO Investigators. *Duke University Medical Center, Durham, NC*

In order to determine risk factors for stroke beyond the standard known factors of age, presenting blood pressure, weight, sex, and history of hypertension which were collected on all patients in the GUSTO Trial, additional data were collected for the 592 patients suffering stroke as well as 548 age-matched controls. Odds ratios (95% CI) were as follows:

	For any stroke	For hemorrhagic stroke
Facial or head trauma within 2 wks	3.9 (1.4–11)	7.6 (2.9–20)
History of stroke	4.0 (2.0–8.1)	2.8 (1.1–6.6)
Dementia	2.2 (0.76–6.3)	3.4 (1.2–10)
Atrial fibrillation	3.0 (1.8–5.0)	0.96 (0.41–2.2)
Warfarin use	2.7 (0.88–8.3)	1.8 (0.40–7.9)
Nonsteroidal anti-inflammatory use	1.5 (0.97–2.5)	1.6 (0.91–2.9)
Calcium blocker use	1.5 (1.1–2.0)	1.3 (0.86–1.8)
Beta blocker use	1.2 (0.86–1.7)	1.6 (1.1–2.4)

These findings suggest that recent facial or head trauma is a strong risk factor for hemorrhagic stroke following thrombolytic therapy, and therefore should generally be considered to be a contraindication to thrombolytic therapy. History of stroke predisposes to both any stroke and hemorrhagic stroke, and dementia appears to predispose to hemorrhagic stroke.

3:15

755-6 Neurosurgical Evacuation for Intracranial Hemorrhage Associated with Improved Outcome in GUSTO

Kenneth W. Mahaffey, Harvey D. White, Christopher B. Granger, Robert M. Califf, Joel M. Gore, W. Douglas Weaver, Maarten L. Simoons, Gabriel I. Barbash, Michael A. Sloan, Eric J. Topol, GUSTO Investigators. *Duke University Medical Center, Durham, NC*

In order to evaluate the impact of neurosurgical evacuation of intracranial hemorrhage (ICH) following thrombolytic therapy for acute myocardial infarction, we analyzed the 268 patients with ICH in the GUSTO Trial. In-hospital mortality was 60% with only 13% of patients discharged with minor or no disability. Of the 268 patients, 47 had neurosurgical intervention with the following results: